

Hungarian case studies for harmonization with UNFC based on Anthropogenic Resource classification

Szabó, K., Horváth, Z.
Mining and Geological Survey of Hungary

Introduction

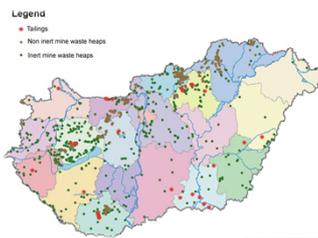
In 2016, the pan-European expert network MINEA pooled high-profiled scholars from different disciplines across Europe in order to compile existing knowledge in the field of anthropogenic resource assessment. The MINEA's mission is to initiate a process to obtain comparable, reliable and transparent estimates on the future recoverability of anthropogenic resources. It is merely a process that compiles existing knowledge and builds on consensus among the scholars involved. In view of a standardized assessment of anthropogenic resources, the UNECE Expert Group on Resource Management appointed a team to develop "Specifications to apply the UNFC to Anthropogenic Resources" which were endorsed in 2018. This poster provides some examples how the Specifications can be used to compare projects that have different knowledge on resources and different levels of feasibility and economic – social viability.

Aim & scope

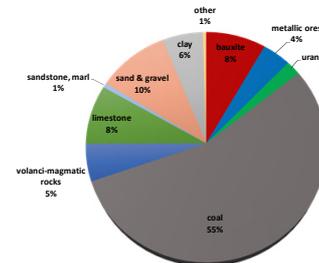
Our aim was to use the Specifications for the application of the United Nations Framework Classification for Resources to Anthropogenic Resources for mining waste within three case studies. We looked at the available documents related to mining waste such as:

- register of mining waste facilities
- archive surveys of heaps and tailings ponds
- mining waste management plans
- surveys prepared for environmental purpose documents of remediation
- documents of scientific research

Case studies in Hungary



Distribution of tailing ponds, non inert mining waste heaps and inert mining waste heaps in Hungary, based on the inventory. Administrative areas (counties) are shown by different colors (Minerals4EU Foresight study 2015)



The distribution of the surface area of heaps, based on data from the inventory of closed mining waste facilities in Hungary, 2016

The following three closed mining waste facilities were chosen for case studies:

- Site I. = heaps of Recsk-I. mining site (Cu)
- Site II. = heaps of Recsk-II. mining site (Cu)
- Site III. = heaps of Gyöngyösoroszi-I. mining site (Pb-Zn)



Heaps of Gyöngyösoroszi I. mining site (Google Earth)



Mining waste tailings in Recsk (photo taken by Zoltán Horváth)

Classification of the sites according to UNFC for Anthropogenic Resources

	E	F	G
Site I. (Recsk-I.)	3	3	3
Site II. (Recsk-II.)	3	4	3
Site III. (Gyöngyösoroszi)	3	4	3

E3: Recovery and sale is not expected to become economically viable in the foreseeable future or evaluation is at too early a stage to determine economic viability.

F3: Feasibility of recovery by a defined development project or mining operation cannot be evaluated due to limited technical data.

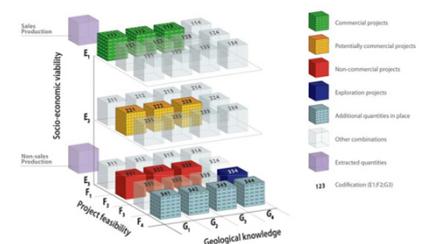
F4: No development project or mining operation has been identified.

G3: Quantities associated with a known deposit that can be estimated with a low level of confidence.

Summary

It is demonstrated that the UNFC for AR can be used / is useful for the development of a common language. Further data is needed to estimate the real value of a potential secondary resource derived from heaps and tailings.

Classification according to UNFC



UNFC-2009 Categories and Examples of Classes (UNECE 2013)